UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,013	02/27/2002	William Christopher Hardy	RIC01068	6962

25537 7590 05/21/2003

WORLDCOM, INC.
TECHNOLOGY LAW DEPARTMENT
1133 19TH STREET NW
WASHINGTON, DC 20036

EXAMINER	
RYMAN, DANIEL J	
ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/084,013	HARDY, WILLIAM CHRISTOPHER	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: ref. 108 (see page 10, line 8). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: ref. 22, 24, 32, 402, 404, 408, 410, 412, 414, 416, 418, 420, 422, 424, and 426. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: on page 3, line 6 "packets. when" should be "packets, when".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-9, 11, 12, 14-19, 22-28, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al (USPN 5,940,472) in view of Kenney et al (USPN 6,208,618).

6. Regarding claims 1, 22, and 33-35, Newman discloses a method, system, and computer readable medium for testing equipment in a network (col. 3, lines 46-59 and col. 4, lines 30-47), the method and program comprising steps of and the system comprising means for: establishing a telephonic connection between a first network location and a second network location (col. 2, lines 64-67); transmitting at least one set of N waveforms (test sequence) from the first network location, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set (sequence number), such that a predetermined sequence of values (sequence numbers) are assigned to packets carrying the N transmitted waveforms (col. 8, lines 16-57 and col. 16, lines 59-63); receiving at least one telephonic signal at the second network location via the communications channel (col. 8, lines 16-57); processing the at least one telephonic signal to obtain a received sequence of values (col. 16, lines 59-63) where it is obvious that if the sequence number are used to detect duplicate messages and out-of-order messages that the sequence number of each message would be checked; and comparing the received sequence of values to the predetermined sequence of transmitted values to detect duplicate messages and out-of-order messages (col. 16, lines 59-63) without having access to packet switched network control data. Since Newman does not disclose a packet switched network, it is obvious that this is done without having access to packet switched network control data. Newman possibly does not expressly disclose that the sequence numbers are used to detect dropped packets where the network includes a segment which is packet-switched. Kenney discloses, in a system for replacing lost PSTN data in a packet

network, that it is well known to transmit telephone data over a packet switched network (col. 1, line 20-col. 2, line 10) where, while not expressly disclosed, it is well known that packet switched systems typically have lower transmission costs than circuit switched systems. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a phone system in which the communication is partly carried over a packet-switched network in order to lower transmission costs. Kenney also discloses that lost or corrupted packets, and the way that these lost or corrupted packet are handled, affects the quality of communication in a phone system in which the communication is partly carried over a packet-switched network (col. 1, line 20-col. 2, line 67). Kenney further suggests that it is well known to use sequence numbers in order to determine if a message has been dropped (col. 1, lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the sequence numbers to determine if the test message transmitted over the packet switched network contains dropped, duplicated, or out-of-sequence messages in order to properly interpret the test messages since the packet switched network could lose packets or create duplicate packets for any lost packets in an attempt to correct for the lost packet.

7. Regarding claim 2, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the representative waveform characteristic is a peak power level; however, multilevel signaling is well known in the art wherein multiple levels of a waveform characteristic correspond to particular values. The concept of multilevel signaling does not specify what waveform characteristic is used, and thus using the peak power level, a well-known waveform characteristic, would have been obvious to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the

invention to have the representative waveform characteristic be peak power level since peak power level is a well-known waveform characteristic which can be used in multilevel signaling.

8. Regarding claim 3, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the representative waveform characteristic is an average power level; however, multilevel signaling is well known in the art wherein multiple levels of a waveform characteristic correspond to particular values. The concept of multilevel signaling does not specify what waveform characteristic is used, and thus using the average power level, a well-known waveform characteristic, would have been obvious to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the representative waveform characteristic be average power level since average power level is a well-known waveform characteristic which can be used in multilevel signaling.

9. Regarding claim 4, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that each waveform in the set of N waveforms includes a representative waveform characteristic corresponding to one of N peak power levels; however, multilevel signaling is well known in the art wherein multiple levels of a waveform characteristic correspond to particular values. The concept of multilevel signaling does not specify what waveform characteristic is used, and thus using the peak power level, a well-known waveform characteristic, would have been obvious to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the representative waveform characteristic correspond to one of N peak power

levels since this is inherent when using multilevel signaling with peak power being used as the waveform characteristic.

10. Regarding claim 5, referring to claim 4, Newman in view of Kenney discloses that each of the sequence numbers corresponds to a value such that the predetermined sequence of values is 1, 2, ..., N (Newman: col. 16, lines 59-63). Newman in view of Kenney possibly does not expressly disclose that each of N peak power levels corresponds to a value between 0 and N, such that the predetermined sequence of values is 1, 2,..., N; however, multilevel signaling is well known in the art wherein multiple levels of a waveform characteristic correspond to particular values. The concept of multilevel signaling does not specify what waveform characteristic is used, and thus using the peak power level, a well-known waveform characteristic, would have been obvious to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the representative waveform characteristic correspond to a predetermined sequence of values such that the predetermined sequence of values is 1, 2, ..., N since this an inherent when using multilevel signaling with peak power being used as the waveform characteristic.

11. Regarding claim 6, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the transmitted set of N waveforms comprise a single waveform having a monotonically increasing or decreasing power level; however, multilevel signaling is well known in the art wherein multiple levels of a waveform characteristic correspond to particular values. The concept of multilevel signaling does not specify what waveform characteristic is used, and thus using the peak power level, a well-known waveform characteristic, would have been

obvious to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the representative waveform characteristic encode the sequence numbers and thus to have the peak power level monotonically increase of decrease in power level since a uniform step increase or decrease is well known in multilevel signaling.

12. Regarding claim 7, referring to claim 1, Newman in view of Kenney discloses that each waveform includes a first segment and a second segment (Newman: col. 16, lines 59-63) where the first segment contains the length and the second segment contains the sequence number.

13. Regarding claim 8, referring to claim 7, Newman in view of Kenney discloses that the second segment includes the representative waveform characteristic (Newman: col. 16, lines 59-63) where the first segment contains the length and the second segment contains the sequence number.

14. Regarding claim 9, referring to claim 1, Newman in view of Kenney discloses that each predetermined value includes a predetermined bit pattern (Newman: col. 16, lines 59-63).

15. Regarding claim 11, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the representative waveform characteristic includes a frequency of the waveform; however, using frequency as a representative waveform characteristic is very old and well known in the art (frequency modulation).

16. Regarding claim 12, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the representative waveform characteristic includes a number of phase changes present in a segment of the waveform; however, using phase changes as a representative waveform characteristic is very old and well known in the art (phase modulation).

17. Regarding claim 14, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the step of processing includes, the step of dividing the at least one telephonic signal into received waveform sections having a duration substantially identical to the transmitted waveform; however, it is well known in the art to break a received stream of data into its constituent segments in order to allow processing on each segment separately.

18. Regarding claim 15, referring to claim 14, Newman in view of Kenney possibly does not expressly disclose that the step of processing further comprises: analyzing each received waveform section to extract a received waveform characteristic; assigning each received waveform section a received value based on the received waveform characteristic; and generating a sequence of received values based on the step of assigning to obtain the received sequence of values; however such steps are well known in the art as a way to extract transmitted data and convert it to a more readily usable form.

19. Regarding claim 16, referring to claim 15, Newman in view of Kenney disclose that a deviation between the predetermined sequence of values and the sequence of section values corresponds to a dropped packet (Kenney: col. 1, lines 61-64).

20. Regarding claim 17, referring to claim 16, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a missing section value, the missing section value corresponding to a dropped packet (Kenney: col. 1, lines 61-64).

21. Regarding claim 18, referring to claim 16, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition corresponding to a dropped

packet (Newman: col. 16, lines 59-63 and Kenney: col. 1, line 31-col. 2, line 67). Kenney discloses that lost or corrupted packets can be duplicated in a packet switched network in order to improve quality of the phone communication (col. 1, line 20-col. 2, line 67). Kenney also suggests that it is well known to use sequence numbers in order to determine if a message has been dropped (col. 1, lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the sequence numbers to determine if the test message transmitted over the packet switched network contains dropped, duplicated, or out-of-sequence messages in order to properly interpret the test messages since the packet switched network could lose packets or create duplicate packets for any lost packets in an attempt to correct for the lost packet.

22. Regarding claim 19, referring to claim 16, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition indicating a packet loss concealment routine operating in the packet switched network (Newman: col. 16, lines 59-63 and Kenney: col. 1, line 31-col. 2, line 67). Kenney discloses that lost or corrupted packets can be duplicated in a packet switched network in order to improve quality of the phone communication (col. 1, line 20-col. 2, line 67). Kenney also suggests that it is well known to use sequence numbers in order to determine if a message has been dropped (col. 1, lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the sequence numbers to determine if the test message transmitted over the packet switched network contains dropped, duplicated, or out-of-sequence messages in order to properly interpret the test messages

since the packet switched network could lose packets or create duplicate packets for any lost packets in an attempt to correct for the lost packet.

23. Regarding claim 23, referring to claim 22, Newman in view of Kenney discloses that the transmission unit further comprises: a computer-readable medium for storing data representing the at least one set of N waveforms (col. 4, lines 29-47); a processor (controller) coupled to the computer readable medium, the processor being programmed to retrieve the data from the computer readable medium (col. 4, lines 29-47). Newman in view of Kenney possibly does not expressly disclose a codec device for converting the data into a signal suitable for transmission over the telecommunications network; however, codecs are very well known in the art as a way to convert analog signals into digital signals for transport over a communication medium.

24. Regarding claim 24, referring to claim 22, Newman in view of Kenney possibly does not expressly disclose that the receiver unit further comprises: a computer-readable medium; a codec device for converting a received telephonic signal into digitized data suitable for storing in a file in the computer-readable medium; and a processor programmed to, divide the digitized data in the file into received waveform sections, analyze each received waveform section to extract a received waveform characteristic, assign each received waveform section a received value based on the received waveform characteristic, and generate a sequence of received values based on the step of assigning, to thereby obtain the received sequence of values. Such steps are well known in the art as a way to extract transmitted data and convert it to a more readily usable form. In addition, codec are very well known in the art as a way to convert analog signals into digital signals for transport over a communication medium

25. Regarding claim 25, referring to claim 24, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values corresponds to a dropped packet (Kenney: col. 1, lines 61-64).

26. Regarding claim 26, referring to claim 25, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a missing section value, the missing section value corresponding to a dropped packet (Kenney: col. 1, lines 61-64).

27. Regarding claim 27, referring to claim 24, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition corresponding to a dropped packet (Newman: col. 16, lines 59-63 and Kenney: col. 1, line 31-col. 2, line 67). Kenney discloses that lost or corrupted packets can be duplicated in a packet switched network in order to improve quality of the phone communication (col. 1, line 20-col. 2, line 67). Kenney also suggests that it is well known to use sequence numbers in order to determine if a message has been dropped (col. 1, lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the sequence numbers to determine if the test message transmitted over the packet switched network contains dropped, duplicated, or out-of-sequence messages in order to properly interpret the test messages since the packet switched network could lose packets or create duplicate packets for any lost packets in an attempt to correct for the lost packet.

28. Regarding claim 28, referring to claim 24, Newman in view of Kenney discloses that a deviation between the predetermined sequence of values and the sequence of section values

includes a repetition of at least one section value, the repetition indicating a packet loss concealment routine operating in the packet switched network (Newman: col. 16, lines 59-63 and Kenney: col. 1, line 31-col. 2, line 67). Kenney discloses that lost or corrupted packets can be duplicated in a packet switched network in order to improve quality of the phone communication (col. 1, line 20-col. 2, line 67). Kenney also suggests that it is well known to use sequence numbers in order to determine if a message has been dropped (col. 1, lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the sequence numbers to determine if the test message transmitted over the packet switched network contains dropped, duplicated, or out-of-sequence messages in order to properly interpret the test messages since the packet switched network could lose packets or create duplicate packets for any lost packets in an attempt to correct for the lost packet.

29. Regarding claim 36, referring to claim 35, Newman in view of Kenney possibly does not expressly disclose analyzing each received waveform section to extract a received waveform characteristic; assigning each received waveform section a received value based on the received waveform characteristic; and generating a sequence of received values based on the step of assigning to obtain the received sequence of values; however such steps are well known in the art as a way to extract transitted data and convert it to a more readily usable form.

30. Claims 10, 20, 29, 30, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al (USPN 5,940,472) in view of Kenney et al (USPN 6,208,618) as applied to claims 1, 14, 24, and 35 above, and further in view of Newton ("Newton's Telecom Dictionary").

31. Regarding claim 10, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the representative waveform characteristic is a waveform corresponding to a CELP symbol. Newton discloses that CELP is a well-known coding technique, used when converting analog signals into digital signals, that compresses the signal by representing the data as a code index number. As such, in CELP the "data transmitted across the network are only the index number of [a] selected code description." It would have been obvious to one of ordinary skill in the art at the time of the invention to use CELP as the representative waveform characteristic in order to reduce the amount of transmitted digital information needed to represent an analog signal.

32. Regarding claims 20, 29, and 37, referring to claim 14, 24, and 35, Newman in view of Kenney possibly does not expressly disclose that the step of processing further comprises: comparing each received waveform section to a plurality of CELP waveform patterns; assigning a symbol number to the received waveform section based on the step of comparing each received waveform section; and generating a sequence of received values using the symbol numbers of the received waveform sections, to thereby obtain the received sequence of values. Newton discloses that CELP is a well-known coding technique, used when converting analog signals into digital signals, that compresses the signal by representing the data as a code index number. As such, in CELP the "data transmitted across the network are only the index number of [a] selected code description." It would have been obvious to one of ordinary skill in the art at the time of the invention to compare each received waveform section to a plurality of CELP waveform patterns; assign a symbol number to the received waveform section based on the step of comparing each received waveform section; and generate a sequence of received values using the symbol

numbers of the received waveform sections, to thereby obtain the received sequence of values in order to reduce the amount of transmitted digital information needed to represent an analog signal.

33. Regarding claim 30, referring to claim 29, Newman in view of Kenney in further view of Newton discloses that the representative waveform characteristic is a waveform corresponding to a CELP symbol.

34. Claims 13, 21, 31, 32, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al (USPN 5,940,472) in view of Kenney et al (USPN 6,208,618) as applied to claims 1, 14, 24, and 35 above, and further in view of Hardy (USPN 5,748,876).

35. Regarding claim 13, referring to claim 1, Newman in view of Kenney possibly does not expressly disclose that the representative waveform characteristic includes a semantically encoded waveform; however, Applicant discloses, by citing Hardy that semantic waveforms are known in the prior art (page 12, lines 20-22). Hardy discloses that semantic waveforms contain "pre-selected bit patterns" (col. 3, lines 15-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to use semantically encoded waveforms to transmit a sequence number since a sequence number is a "pre-selected bit pattern."

36. Regarding claims 21, 31, and 38, referring to claims 14, 24, and 35, Newman in view of Kenney possibly does not expressly disclose that the step of processing further comprises: comparing each received waveform section to a plurality of semantically encoded waveform patterns; assigning a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and generating a sequence of section values using the bit-pattern of the received waveform sections, to thereby obtain the received sequence of values.

Applicant discloses, by citing Hardy, that semantic waveforms are known in the prior art (page 12, lines 20-22). Hardy discloses that semantic waveforms contain "pre-selected bit patterns" (col. 3, lines 15-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to use semantically encoded waveforms to transmit a sequence number since a sequence number is a "pre-selected bit pattern." Thus, it would have been obvious to one of ordinary skill in the art to compare each received waveform section to a plurality of semantically encoded waveform patterns; assign a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and generate a sequence of section values using the bit-pattern of the received waveform sections, to thereby obtain the received sequence of values.

37. Regarding claim 32, referring to claim 31, Newman in view of Kenney possibly does not expressly disclose that a section waveform characteristic is a semantically encoded waveform. Applicant discloses, by citing Hardy, that semantic waveforms are known in the prior art (page 12, lines 20-22). Hardy discloses that semantic waveforms contain "pre-selected bit patterns" (col. 3, lines 15-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to use semantically encoded waveforms to transmit a sequence number since a sequence number is a "pre-selected bit pattern."

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Randic (USPN 6,275,797) see Fig. 2 and col. 2, lines 30-60. Minko (USPN 5,963,551) see col. 2, lines 10-48 which discloses the use of sequence numbers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6743 for regular communications and (703)308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman
Examiner
Art Unit 2665

DJR

Daniel J. Ryman
May 14, 2003

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600